

US 60 (Grand Avenue) Feasibility Study Loop 303 to Loop 101



PROJECT EVALUATION MATRIX – ENGINEERING

Evaluation Category	Evaluation Criteria	Performance Measures	Bell Road	Bell Road	Meeker/Reems	Greenway Road	Thunderbird	107th Avenue	103rd Avenue	Drainage Channel
			Diamond Interchange	Overpass with Connector Road	Diamond Interchange	Intersection Improvements	Road Re-alignment	Diamond Interchange	Overpass	
Design Standards	Roadway Design	Comparative design elements between projects	40 MPH Design (Bell Road) Frontage Road merge/diverge; 2 at-grade BNSF crossings	40 MPH+ (Bell Road); 40+ MPH (Connector Road); one at-grade BNSF crossing	Meeker/Reems 40 MPH Design; merge/diverge along Grand Ave	Implements a skewed intersection to BNSF	Frontage Road intersection located along curved alignment	30 MPH (107th Ave); Frontage Road with tight Merge/Diverge issues	35 MPH (103rd Ave)	Drainage channel in box culvert or pipes; Curb and gutter
	Access	No. of Turning movements no longer provided at the key intersection	0 (all movements provided)	0 (all movements provided)	0 (all movements provided)	0 (all movements provided)	0 (all movements provided)	0 (all movements provided)	8 (no turning movements provided)	N/A
Access	Business Access	No. of access points removed (No. of access points restricted)	6 (6)	8 (4)	9 (2)	0 2	2 (2)	2 (12)	13 (0)	N/A
	Intersection Performance	Change in total peak hour delay for key intersection	-137 hr	-133 hr	-33 hr	-204 hr	-7 hr	0 hr	-59 hr	no traffic improvements
Traffic Operations	Grand Ave	Change in delay along Grand Avenue	-10 hr	-28 hr	-21 hr	-78 hr	-3 hr	+14 hr	-25 hr	no traffic improvements
	Drivers' Expectations	Potential violations of drivers' expectations	No violations of drivers' expectations	No movements provided between Bell Road and Grand Ave, guide signing needed to Connector Road	No violations of drivers' expectations	North Frontage Road limited to RI-RO	No violations of drivers' expectations	Short diverge areas allowing access to frontage roads may confuse drivers	No movements provided between 103rd Ave and Grand Ave, guide signing needed.	No violations of drivers' expectations
Traffic Operations	Enhancement to Regional Connectivity	Number of vehicles unimpeded at key intersection	44900	72100	33700	0	0	9500	58800	no traffic improvements
	Impacts to surrounding intersections	Potential changes to other intersections due to traffic diversions	None	N Bell Grande & Grand will degrade. This will be the major intersection with Bell Rd.	None	Traffic will use intersection of Greenway & Thompson Ranch Rd rather than bypass thru neighborhood.	All Thunderbird traffic combines at one intersection southwest of Grand instead of two.	None	All turning volumes diverted to 107th & 99th Ave.	None
Right of Way and Costs	Amount of Right of Way needed	Approximate acres	8.5	8.8	27.6	2	2.3	0.2	3.6	0
	Number of relocations	No. of Total acquisitions	3	2	13	0	12	0	3	0
Right of Way and Costs	Estimated Construction Costs	Comparative costs between alternatives	\$32.6 Mil	\$36.5 Mil	\$38.6 Mil	\$ 1.9 Mil (+ BNSF Improvements)	\$ 1.6 Mil	\$10.6 Mil	\$9.7 Mil (BNSF\$)	\$14.0 Mil
	Maintenance Commitments	Comparative level of maintenance for entire project	Longest bridge span, 2 at-grade crossings. Frontage roads and retaining walls	Bridge span, new arterial roadway with one at-grade crossing	Bridge span, new ramps, two signalized intersections	Additional arterial roadway from Grand to Thompson Ranch Parkway	Minimal additional maintenance over existing condition	Bridge Span, ramps and 2 at-grade crossings	Bridge span	Continuous Box Culverts
Constructability	Community Impacts During Construction	Comparative duration of construction and impacts on traffic	Long duration, significant traffic impacts along Bell Road	Moderate duration, some traffic impacts along Bell Road	Long duration, significant traffic impacts along Meeker/Reems Road and Grand Ave	Short duration, minimal impacts	Short duration, minimal impacts	Moderate duration, 107th Ave intersection can remain partially open during construction	Short duration, 103rd Ave intersection closed during construction	Minimal impacts during construction
	Impacts to traffic along Grand Ave during construction		Traffic disruptions at Bell Road intersection due to phased construction	Minimal impacts to traffic along Grand Ave	Traffic disruptions at Meeker/Reems intersection due to phased construction	Minimal disruptions at Greenway Road intersection	Minimal disruptions at Thunderbird Road intersection	Minor impacts to traffic at 107th Ave intersection	Minimal impacts to traffic along Grand Ave	Minimal disruptions to traffic along Grand Ave
Implementation	Utility Conflicts		Moderate Impacts	Moderate Impacts	Significant Impacts (Quest Building)	Minimal Impacts	Minimal Impacts	Minimal	Moderate	Minimal
	Level of coordination with Railroad		Moderate - relocated crossings and R/W acquisition	High - New crossing and R/W acquisition	Low- Coordination for bridge crossing	High - relocation of BNSF switches and skewed intersection	None	Moderate - relocated crossings and R/W acquisition	Low - coordination for bridge crossing	None
Implementation	Potential for Throw-away during construction		Low - throwaway during construction	Moderate - Profile change along Grand Ave	Low - throwaway during construction	None	None	Moderate - throwaway during construction	Low - little throwaway during construction	New guardrail in widening project.
	Prioritization		High		Low	High	High	Low	High	Low
LEGEND:			Least Desirable		Somewhat Desirable	Moderately Desirable	Most Desirable			